CLAIMS:

1. A knee replacement prosthesis comprises:

(a) a femoral component having a pair of condylar surfaces and an intercondylar region; and

(b) a tibial component having a tibial platform and a bearing component which articulate with the femoral component, wherein a protrusion or a tibial post from the bearing component articulates with the intercondylar portion of the femoral component, wherein the tibial post is substantially curved in the sagittal plane to allow anterior-posterior translation of the femoral component during extension and early flexion, wherein anterior and posterior surfaces of the post is curved to allow and control femoral-tibial axial rotation.

2. The knee replacement prosthesis of claim 1, wherein the post can be anywhere from front to back of the tibial component.

3. The knee replacement prosthesis of claim 1, wherein the anterior surface of the post is substantially curved in the sagittaly plane to allow anterior translation of the femoral component during extension and early flexion.

4. The knee replacement prosthesis of claim 1, wherein the anterior surface of the femoral component contacts the anterior surface of the post in extension and early flexion wherein the flexion is between about 0 to about 20 degrees.

5. The knee replacement prosthesis of claim 1, wherein the posterior surface of the post is substantially curved in the sagittaly plane to allow posterior translation of the femoral component during late flexion.

6. The knee replacement prosthesis of claim 1, wherein the posterior surface of the femoral component contacts the posterior surface of the post in late flexion, wherein the flexion is between about 80 to about 150 degrees.

7. The knee replacement prosthesis of claim 1, wherein the posterior surface of the post is substantially curved in the coronal plane to allow femoral component internal and external rotation.

8. The knee replacement prosthesis of claim 1, wherein the posterior surface of the post is offset from the main coronal plane of the post by about 0 to about 20 degrees to control femoral component rotation in flexion.

9. The knee replacement prosthesis of claim 1, wherein the replacement prosthesis is a substitute for the function of an anterior and/or a prosterior cruciate ligament.

10. The knee replacement prosthesis of claim 1, wherein the bearing component is non-mobile.

11. The knee replacement prosthesis of claim 1, wherein the bearing component is mobile.

12. The knee replacement prosthesis of claim 1, wherein the post has a variable radius of curvature of less than about 10 mm.

13. The knee replacement prosthesis of claim 1, wherein the anterior surface of the post is offset from the main coronal plane of the post by 0 to 20 degrees to control femoral component rotation in extension.

14. The knee replacement prosthesis of claim 1, wherein the tibial post which has a downward sweep on the anterior posterior aspects.

15. The knee replacement prosthesis of claim 1, wherein the knee controls anterior/posterior position of the femoral component relative to the tibial platform at early and late flexions only and not in the middle flexion.

16. The knee replacement prosthesis of claim 1, wherein anterior surface of the intercondylar surface has a fixed or variable radius of curvature.

17. The knee replacement prosthesis of claim 1, wherein anterior surface of the intercondylar surface accepts the intercondylar region of the femoral component in full extension and early flexion.

18. The knee replacement prosthesis of claim 17, wherein the flexion is about 0 to about 20 degrees.

19. The knee replacement prosthesis of claim 1, wherein anterior condylar surfaces of the tibial component are curved and elevated anteriorly to conform to the anterior femoral component and displace the femur anteriorly in extension and early flexion.

20. The knee replacement prosthesis of claim 19, wherein the flexion is about 0 to about 20 degrees.

21. The knee replacement prosthesis of claim 1, wherein the intercondylar portion of the femoral component engages the protrusion from the bearing component in full extension and early flexion.

22. The knee replacement prosthesis of claim 1, wherein, at a mid flexion, anterior femoral condylar of the femoral component slides over anterior tibial condyles of the tibial component and displaces the femoral component posteriorly.

23. The knee replacement prosthesis of claim 1, wherein a central projection of the tibial component articulate with distal intercondylar surface of the femoral component or an intercondylar cam.

24. The knee replacement prosthesis of claim 1, wherein intact posterior cruciate ligament displaces femur posteriorly in late flexion.

25. The knee replacement prosthesis of claim 24, wherein the flexion is about 80 to about 150 degrees.

26. A knee replacement prosthesis comprises:

(a) a femoral component having a pair of condylar surfaces and an intercondylar region; and

(b) a tibial component having a tibial platform and a bearing component which articulate with the femoral component, wherein a protrusion or a tibial post from the bearing component articulates with the intercondylar portion of the femoral component, wherein the tibial post is substantially curved in the sagittal plane to allow anterior-posterior translation of the femoral component during extension and early flexion, wherein anterior surface of the post is curved medial laterally to allow femoral-tibial axial rotation, wherein the femoral and tibial components are shaped in such a way that the femoral intercondylar surface has a radius of curvature at its distal most aspect which is slightly smaller than the radius of curvature of the anterior surface of the tibial projection, thereby providing a camming action, wherein the anterior articular surface of the tibial component is curved with a radius of curvature of the condylar surfaces which are about the same radius of curvature or slightly larger radius of curvature of the corresponding anterior condyles of the femoral component.

27. The knee replacement prosthesis of claim 26, wherein the replacement prosthesis is a substitute for the function of an anterior and a posterior cruciate ligament.

28. The knee replacement prosthesis of claim 26, wherein the anterior surface of the post is offset from the main coronal plane of the post by 0 to 20 degrees to control femoral component rotation in extension.

29. The knee replacement prosthesis of claim 26, wherein the bearing component is non-mobile.

30. The knee replacement prosthesis of claim 26, wherein the bearing component is mobile.

31. The knee replacement prosthesis of claim 26, wherein the post can be anywhere from front to back of the tibial component.

32. The knee replacement prosthesis of claim 26, wherein the anterior surface of the post is substantially curved in the sagittaly plane to allow anterior translation of the femoral component during extension and early flexion.

33. The knee replacement prosthesis of claim 26, wherein posterior surface of the post is substantially curved in the sagittaly plane to allow posterior translation of the femoral component during late flexion.

34. The knee replacement prosthesis of claim 33, wherein the posterior surface of the femoral component contacts the posterior surface of the post in late flexion, wherein the flexion is between about 80 to about 150 degrees.

35. The knee replacement prosthesis of claim 33, wherein the posterior surface of the post is substantially curved in the coronal plane to allow femoral component internal and external rotation.

36. The knee replacement prosthesis of claim 33, wherein the posterior surface of the post is offset from the main coronal plane of the post by about 0 to about 20 degrees to control femoral component rotation in flexion.

37. A method of repairing a damaged knee of a patient in need by implanting a total knee replacement prosthesis comprising the steps of:

(a) providing a femoral component having a pair of condylar surfaces and an intercondylar region; and

(b) providing a tibial component having a tibial platform and a bearing component which articulate with the femoral component, wherein a protrusion or a tibial post from the bearing component articulates with the intercondylar portion of the femoral component, wherein the tibial post is substantially curved in the sagittal plane to allow anterior translation of the femoral component during extension and early flexion, wherein anterior surface of the post is curved medial laterally to allow femoral-tibial axial rotation, wherein the femoral and tibial components are shaped in such a way that the femoral intercondylar surface has a radius of curvature at its distal most aspect which is slightly smaller than the radius of curvature of the anterior surface of the tibial projection, thereby providing a camming action, wherein the anterior articular surface of the tibial component is curved with a radius of curvature of the condylar surfaces which are about the same radius of curvature or slightly larger radius of curvature of the corresponding anterior condyles of the femoral component, thereby providing a total knee replacement prosthesis.

38. The method of claim 37, wherein the replacement prosthesis is a substitute for the function of an anterior and a prosterior cruciate ligament.

39. The method of claim 37, wherein the bearing component is non-mobile.

40. The method of claim 37, wherein the bearing component is mobile.

41. The method of claim 37, wherein the anterior surface of the post is offset from the main coronal plane of the post by 0 to 20 degrees to control femoral component rotation in extension.

42. The method of claim 37, wherein the post can be anywhere from front to back of the tibial component.

43. The method of claim 37, wherein the anterior surface of the post is substantially curved in the sagittaly plane to allow anterior translation of the femoral component during extension and early flexion.

44. The method of claim 43, wherein the anterior surface of the femoral component contacts the anterior surface of the post in extension and early flexion, wherein the flexion is between about 0 to about 20 degrees.

45. The method of claim 37, wherein posterior surface of the post is substantially curved in the sagittaly plane to allow posterior translation of the femoral component during late flexion.

46. The method of claim 45, wherein the posterior surface of the femoral component contacts the posterior surface of the post in late flexion, wherein the flexion is between about 80 to about 150 degrees.

47. The method of claim 45, wherein the posterior surface of the post is substantially curved in the coronal plane to allow femoral component internal and external rotation.

48. The method of claim 45, wherein the posterior surface of the post is offset from the main coronal plane of the post by about 0 to about 20 degrees to control femoral component rotation in flexion.

49. A method of making a total knee replacement prosthesis comprising:

(a) obtaining a femoral component having a pair of condylar surfaces and an intercondylar region;

(b) obtaining a tibial component having a tibial platform and a bearing component;

(c) articulating the tibial platform and the bearing component with the femoral component;

(d) articulating a protrusion or a tibial post from the bearing component with the intercondylar portion of the femoral component;

(e) shaping the femoral and tibial components in such a way that the femoral intercondylar surface has a radius of curvature at its distal most aspect which is slightly smaller than the radius of curvature of the anterior surface of the tibial projection, thereby providing a camming action; and

(f) curving the anterior articular surface of the tibial component with a radius of curvature of the condylar surfaces which are about the same radius of curvature or slightly larger radius of curvature of the corresponding anterior condyles of the femoral component, thereby providing a total knee replacement prosthesis.

50. The method of claim 49, wherein the replacement prosthesis is a substitute for the function of an anterior and a prosterior cruciate ligament.

51. The method of claim 49, wherein the bearing component is non-mobile.

52. The method of claim 49, wherein the bearing component is mobile.

53. The method of claim 49, wherein the post has a variable radius of curvature of less than about 10 mm.

54. The knee replacement prosthesis of claim 49, wherein the anterior surface of the tibial projection is offset from the main coronal plane of the tibial projection by 0 to 20 degrees to control femoral component rotation in extension.

55. The method of claim 49, wherein the tibial post which has a downward sweep on the anterior posterior aspects.

56. The method of claim 49, wherein the knee controls anterior/posterior position of the femoral component relative to the tibial platform at early and late flexions only and not in the middle flexion.

57. The method of claim 49, wherein laxity is no less than 3 mm when flexion is greater than about 60 degrees.

58. The method of claim 49, wherein anterior surface of the intercondylar surface has a fixed or variable radius of curvature.

59. The method of claim 49, wherein anterior surface of the intercondylar surface accepts the intercondylar region of the femoral component in full extension and early flexion.

60. The method of claim 59, wherein the flexion is about 0 to about 20 degrees.

61. The method of claim 49, wherein anterior condylar surfaces of the tibial component are curved and elevated anteriorly to conform to the anterior femoral component and displace the femur posteriorly in mid flexion.

62. The method of claim 61, wherein the flexion is about 20 to about 90 degrees.

63. The method of claim 49, wherein the intercondylar portion of the femoral component engages the protrusion from the bearing component in full extension and early flexion.

64. The method of claim 49, wherein, at a mid flexion, anterior femoral condylar of the femoral component slides over anterior tibial condyles of the tibial component and displaces the femoral component posteriorly.

65. The method of claim 49, wherein a central projection of the tibial component articulate with distal intercondylar surface of the femoral component or an intercondylar cam.

66. The method of claim 49, wherein intact posterior cruciate ligament displaces femur posteriorly in late flexion.

67. The method of claim 49, wherein the flexion is about 80 to about 150 degrees.

68. The method of claim 49, wherein posterior surface of the post is substantially curved in the sagittaly plane to allow posterior translation of the femoral component during late flexion.

69. The method of claim 68, wherein the posterior surface of the femoral component contacts the posterior surface of the post in late flexion, wherein the flexion is between about 80 to about 150 degrees.

70. The method of claim 68, wherein the posterior surface of the post is substantially curved in the coronal plane to allow femoral component internal and external rotation.

71. The method of claim 68, wherein the posterior surface of the post is offset from the main coronal plane of the post by about 0 to about 20 degrees to control femoral component rotation in flexion.